

ELFA-info is published by ELFA AB,

SE-175 80 Järfälla

symbol.

Phone: +46 8-580 941 00 Fax: +46 8-580 943 00 Circulation: 48,000 copies.

Additional data is available in ELFA's Internet Catalogue, at www.elfa.se, on products marked with this

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International deliveries

ELFA AB, SE-175 80 Järfälla Order phone: +46 8 580 941 30 Order fax: +46 8 580 941 11 E-mail: export@elfa.se Internet: www.elfa.se

Harnbraid

Round tinned copper braid braided directly onto a plastic tube for preservation of the cylindricity of the braid and simplified retraction of cable.



Outside diameter	of the tube Stock no.	Price each
3,0 mm 4,0 mm 5,0 mm 6,0 mm 12,5 mm 15,0 mm	55-084-45 55-084-52 55-084-60 55-084-78 55-084-86 55-084-94	3.28 5.37 6.30 7.42 10.40 13.60

Gas alert

A complete unit powered by 12-24 Vdc that reacts to small amounts of e.g. alcohol, ether, chloroform, lighter fluid and smoke. The alert gives off both a visual and loud alarm at indication. Simple connection by a cigarette lighter outlet.





Turn magnet

Turn magnet designed for continuos connection. Suitable areas of application: valve controls, feeding mechanisms in different kinds of machinery, strap brakes and sorting equipment.

Technical data Turn angle: Initial torque: 0.06 Ncm 0,35 Ncm (at 90°) End torque: 20 ms Activation torque: Max connection time ED 100 % Continous Cable length: 200 mm Shaft diameter: 3 mm Ø 25×55 mm (incl shaft) Dimensions:



Type D29-BOR-F	Current mA	Nom. Coil resistance ohm	Stock no.	Price each 1-	5-	10-
DS9420/12DC	350	34	54-604-15	109.00	98.10	86.80
DS9420/24DC	160	152	54-604-49	109.00	98.10	86.80

Power supply for electronics fans

Switching power supply for operation of electronically commutated fans and motors. Up to 6 fans can be directly connected to the unit by a connector strip. 24 Vdc output voltage, can be easily modified for 12 V operation and for temperature controlled fan operations. Galvanically separated input and output. Short-circuit proof output. Meets EN50081 and EN60950.





Manufactured by Papst

Manufactured by Kuhnke

	•	•
Technical data		
Input voltage: Output voltage: Output power:	230 Vac 50 Hz (110 Vac 60 Hz, reversible) 24 Vdc 60 W	
Temp. range: Dimensions:	-20 to +55 °C 170×90×48 mm	

Unique display

With time relay H5CX and preset counter H7CX Omron sets a new standard for digital time relays and preset counters. Both models have a clear multi-colour LCD that combines the luminance of the LED technology with the high contrast and definition of the LCD technology. Display of current time/value indicated by red or green numbers that can change colours when output is activated.

Time relay, multi-function

Programmable time relay with a total of 14 different optional functions, intervaloperating time and proportional time included. Clear 4-digit character window. 11.5 mm red characters for counting values and 6 mm green characters for preset value. Toggle switches for simple setting. Sealed to IP66. For more information see stock number 37-538-29 on www.elfa.se.



Regular price 219 EUR. Offer valid through 31-12-2003.

Technical data	
Power voltage H5CX-AD: H5CX-A, H5CX-A11: Contact function:	

Type no.	Connection	Stock no.	Price each
H5CX-AD		37-538-45	107.00
H5CX-A		37-538-29	107.00
H5CX-A11		37-538-52	107.00

Preset counter with scaling factor and impulse/ tacho

Electronic preset counter with 1 or 2 preselections. 1 relay output and 1 transistor output. You can choose which output that is to be activated for preselection 1 resp.

preselection 2. Tachometer with scaling factor which makes it possible to display values in litres, meter, kg, etc. The counters have a clear 6-digit display, 9 mm red characters and 6 mm green characters for preset values. Toggle switches for simple setting. Input signal from a non-potential contact or PNP/ NPN signal from a sensor. Sealed to IP66. For more information see stock number

37-539-28 on www.elfa.se.					
Technical data					
Power voltage	Power voltage				
H7CX-AUDĬ:	12-24 VDC, 24 VAC				
H7CX-AU: 100-240 VAC					
Contact function: Relay: 3 A, 250 VAC/30 VDC					
Transistor: 100 mA, 30 VDC					



Regular price 282 EUR. Offer valid through 31-12-2003.

Type no.	Connection	Stock no.	Price each
H7CX-AUD1	Screw	37-539-44	171.00
H7CX-AU	Screw	37-539-28	171.00

Memory on a ring

A USB-memory in a key ring design. Very suitable for moving data between different work places. Protected USBconnector and integral writing protection. Log on to www.elfa.se for current price.

Technical data			
Dimensions: 25x63x10 mm Conpatible with Win 98SE, Win 2000, Win ME, Win XP, Mac OS X and MacOS8.6 or higher			



Туре	Stock no.
32 MB	73-877-07
64 MB	<i>7</i> 3-8 <i>7</i> 7-1 <i>5</i>
128 MB	73-877-23

4-pole relay, 10 A

Type Quattro

Relay, 4-pole switching, for socket mounting. Contact with separate chambers in combination with good lowcurrent properties make the relay suitable for control of high currents (up to 10 A) and signal voltages simultaneously. Socket for DIN-rail available as accessory.



Manufactured by Kuhnke

Technical data	
Contact function: Breaking capacity: Dielectric strength: Temp. range: Dimensions:	4-pole switching (Form 4C) 10 A 250 Vac 2500 Vac -40 to +70 °C 27,5x;21;37,4 mm

Туре	Coil voltage	Stock no.	Price each
114A4-12VDC-1 114A4-24VDC-1 114A4-24VAC-1 114A4-230VAC-1	12 Vdc 24 Vdc 24 Vac 230 Vac	37-141-02 37-141-10 37-141-28 37-141-36	7.23 7.56

Accessories					
Туре	Description	Stock no.	Price each		
Z336.02 Z336.80	Socket Clamp	37-141-44 37-141-51	5.26 1.04		

Phono panel sockets with universal flange

Colour coded phono female sockets for mounting in e.g. patch panels. Solder connection.



Colour	Stock no.	Price each
Black	42-270-05	5.11
Red	42-270-21	5.11
Yellow	42-270-47	5.11
White	42-270-62	5.11
Black	42-270-13	5.56
Red	42-270-39	5.56
Yellow	42-270-54	5.56
White	42-270-70	5.56
	Black Red Yellow White Black Red Yellow	Black 42-270-05 Red 42-270-21 Yellow 42-270-47 White 42-270-62 Black 42-270-13 Red 42-270-39 Yellow 42-270-54

Plastic enclosure XP/XPL

Two-piece enclosure made of ABS plastic with a smooth detachable panel on one side. Recessed surface on the top piece for membrane keyboard. Spacers for mounting of PCB on bottom piece. Four installation screws from beneath. A complete dimensioned sketch can be obtained on PDF-datasheet. (Dim. in mm. Outside dimensions of the enclosure only.)



Technical date	a		
Material: Colour:	ABS-94HB Black resp. ivory		

Туре	Colour	A	В	С	Stock no.	Price each
XP	Black	91	140	28	50-145-01	6.51
XP	Ivory	91	140	28	50-145-19	6.51
XPL	Black	102	178	28	50-145-68	8.97
XPL	Ivory	102	178	28	50-145-76	8.97

Plastic case ErgoCase

Two-part very versatile case. Can be mounted on tables, walls, carried on a belt or on the wrist. Two sizes with low resp. high top. Recessed surface for touch-sensitive keyboard. Flat surface on one side for e.g. connectors. Supplied with internal bushings for PCBs. Prepared for mounting of battery compartment and belt loops. Sealed to IP54 with sealing kit. Supplied with assembly screws, cover for battery compartment and adhesive rubber feet. Accessories ordered separately.



		Mandiacidied by OKW
Technical data		
Material: Sealed to: Colour:	ABS (UL 94 HB) IP54 with sealing kit Off-white (RAL 9002), black (RAL 9005)	

Туре	Colour	A	В	С	Stock no.	Price each
Low top B7010107 B7010109	Off-white Black	150 150	100 100	40 40	50-201-44 50-201-69	17.00 17.00
High top B7015107 B7015109	Off-white Black	150 150	100 100	55 55	50-201-51 50-201-77	18.40 18.40
Low top B7020107 B7020109	Off-white Black	150 150	200 200	54 54	50-202-01 50-202-28	22.90 22.90
High top B7025107 B7025109	Off-white Black	150 150	200 200	69 69	50-202-18 50-202-36	24.80 24.80

Console case Comtec

Two-part console case made of ABS plastic. Three widths of low resp. high model. Suitable for table applications and wall mounting, model with battery compartment for mobile use. The battery compartment can be fitted with holders for different types of batteries, see accessories.

Recessed surface for touch-sensitive keyboard, suitable for code locks and control panels. Supplied with internal bushings for PCBs in top and bottom part. Easy assembly with only two screws. Supplied with mounting screws and adhesive rubber feet. Accessories ordered separately.



Manufactured by OKW

Comtec 120 F/H

Low/high model. Without battery compartment. Max. PCB size 90x120 mm.

Technical data	
Material:	ABS (UL 94HB)
Sealed to:	IP41
Colour:	Off-white (RAL 9002), black (RAL 9005)

Without battery compartment.

Туре по.	Colour	Width mm	Depth mm	mm	Stock no.	Price each
A0612107	Black	120	150 150 150 150	20/42,8 20/42,8 40/62,8 40/62,8	50-400-01 50-400-27 50-400-19 50-400-35	15.60 15.60 16.30 16.30

Does your Laptop lack a serial port?

Here comes the solution, USB to serial port.

Adaptor USB to serial port 9-pole D-sub male. CD with driver routines is included. 25-164-33 needs external power supply. A mains adaptor is therefore included with this article.

For table with output current resp. output voltage and accessories, see www.elfa.se.



Туре	Description	Stock no.	Price each
UC-232A	USB-1xRS232	25-164-09	28.00
USB-2COM	USB-2xRS232	25-164-25	55.90
USB-2COMI	USB-2xRS422/485	25-164-33	97.00

BNC

51

Type no.

NBNC75PNS7

BNC male plug with push-pull locking Enables quick and easy disconnection of the connectors. Supplied with black cover.



A 10 MIN	
15.00	

		,
Technical data		
Crimp connection Impedance: Suitable cable:	75 Ohm RG59B/U	

Stock no.

46-470-04

Price each

5.95

BNC male plug rear-twist

You have to turn the cover for disconnection. Supplied with black cover.



	manoraciorea by recon		
Type no.	Stock no.	Price each	
NBNC75BLP7	46-472-02	3.35	

For separate back covers in other colours and suitable tools see www.elfa.se.

Dual-sided BNC female sockets with universal flange



Type no.	Cover	Stock no.	Price each
Insulated NBB75DFI NBB75DFIB	Gloss Black	46-474-00 46-474-18	9.66 10.10
Uninsulated NBB75DFG NBB75DFGB	Gloss Black	46-474-26 46-474-34	9.90 10.40

BNC female socket with universal flange For mounting in e.g. patch panels. Solder connection.

Type no.	Cover	Stock no.	Price each
Insulated NBB75DSI NBB75DSIB	Gloss Black	46-475-09 46-475-17	9.90 10.40
Uninsulated NBB75DSG NBB75DSGB	Gloss Black	46-475-33 46-475-41	9. <i>57</i> 10.00

Everything you may need

A set consisting of 4 pcs. of flat blade drivers, 5 pcs. of Phillips drivers, 3 pcs. of flat blade drivers and 3 pcs. of Phillips drivers for work under voltage up to 1000 Vac or 1500 Vdc. Soft, ergonomically designed handle made of ABS plastic and neoprene rubber. Oil and acid resistant. Blade made of high-alloy chrome-vanadium-molybdenum steel with through-hardened, black-anodised, matt-chromed, magnetised tip. The 1000 V drivers are approved according to EN 60900.

Contains:		
Slotted screw		
Blade-	Blade-	Total-
width mm	length mm	length mm
2,0	40	105
5,5	125	237
6,5	150	262
8,0	200	329
Slotted screw 1000 V		
2,4	75	167
4,0	100	212
5,5	125	254
Phillips no.		
00	40	105
0	60	152
1	80	172
2	100	212
2	38	109
Phillips 1000 V		
0	60	152
1	80	192
2	100	229



Manufactured by Sundove

Туре	Description	Stock no.	Price each
SD-68616V	Screw kit	80-322-11	28.00

PHE840M X2 Capacitor

Suppression capacitor/EMI filter class X2. Capacitance from 0.01 µF up to 10 µF with a dielectric of metallised polypropylene. The capacitors are encased in a flame-extinguishing material according to UL 94 V-0. Approvals: ENEC, UL and CSA.



Technical data:	
Tolerance:	±20 %

280 Vac 50/60 Hz (UL, CSA)

For more information see stock no. 65-642-49 at www.elfa.se.

Use your Laptop in the car, boat or airplane

Energy Knight is a small and compact adaptor for power supply of a laptop by 12 Vdc. Connection by the cigarette lighter outlet or by a special power supply connector available on certain types of passenger planes (common in business class in larger Boeing passenger planes). Supplied with 5 pcs. of voltage clamps, 7 pcs. of DC plugs and a table showing which clamp and plug that should be used for each type of Laptop.



Technical data		
Input voltage: Output voltage: Power: Dimensions:	10–15 VDC 15, 16, 18, 19 or 24 V (by voltage clamp) 72 W 95x42x21 mm	

Туре	Stock no.	Price each
Energy Knight I	69-881-82	64.70

The electrician's combination pack

Multimeter Fluke 112

- Clamp meter Fluke 322
- TL76 All-in-one test lead set
- C800 Hard instrument and accessory

Stock no.	Price each
76-001-74	259.00

You will save 79 EUR if you buy this pack.

Multimeter Fluke 179

- TL224 SureGripTM-silicone test lead set
- TL910 Electronic test probes
- AC280 SureGripTM hook clamps
- 80BK Integrated temperature probe for digital multimeters
- C800 Hard instrument- and accessory case

Stock no.	Price each
76-001-82	299.00

You will save 94 EUR if you buy this pack.





Knipex's new electronics side cutters

We extend our already wide range of high-quality pliers with the new series from Knipex with Comfort handles. The range is made up of the most requested models on the market. Some ESD models are also kept in stock. All models are manufactured from high-gloss polished chrome vanadium steel with induction hardened cutting edges and designed with the new ergonomic

Comfort handle for increased feeling. The shanks are made of a riveted double joint and has an integral spot welded return spring.



Туре	Description	Cutting capacity Copper wire	Stock no.	Price each
35 32 115	Round nose pliers	-	80-532-74	21.90
35 62 145	Snipe nose pliers		80-532-76	25.50
35 22 115	Flat pliers	-	80-532-78	21.90
77 22 115	Side cutter	0,3-1,3 mm	80-532-80	26.30
77 72 115	Side cutter	0,3-1,0 mm	80-532-82	28.10
77 22 130	Side cutter	0,3–2,0 mm	80-532-84	27.90
64 42 115	Diagonal cutter	1.5 mm	80-532-86	31.70
64 02 115	End cutter	2,0 mm	80-532-88	30.10
77 02 115	Side cutter	0,3-1,6 mm	80-532-90	26.20
77 72 115 ESD	Side cutter	0,3-0,8 mm	80-532-92	29.50
77 22 115 ESD	Side cutter	0,3–1,3 mm	80-532-94	27.70
35 22 115 ESD	Snipe nose pliers	-	80-532-96	23.80

Toshiba GigaEnergy

A new primary battery for digital cameras with superior capacity compared to ordinary alkaline batteries.

- Chemical system Nickel Zinc
- High capacity at low temperatures
- Good high-current properties

Not rechargeable. Only sold in packs of 2.



Туре	Size	Stock no.	Price/pack
ZR6GR BP-2G	ANSI/AA	69-253-17	5.14

Programmable power supply, bench type 20 V 10 A

A modern switching power supply where a number of pre-set values can be programmed by using the front panel and they can also be saved and retrieved. High output power compared to the weight. LCD, output switch. RS-232 interface.



Technical data	
Dimensions:	225x100x305 mm
Weight:	4 kg

Туре	Stock no.	Price each
PSP-2010 The model is also available	69-853-03 e in a 40 V, 5 A	386.00 design.
PSP-405	69-852-95	386.00

IR-detektorer from CROW

IR-detectors of the Talon series

Passive IR detectors with a very special lens with micro prisms, which provides very good sensibility thanks to its unique design. The detector is sensitive both to movements crossing the detection zones and movements towards or from the detector. Besides the standard detector there is also a combination detector (IR/ Micro wave) TL/X and a ceiling detector TL-360.



Common data	
Cover area:	15x21 m (TL-360 dia 20 m)
Supply voltage:	8,2–16 VDC
Output:	Breaking 100 mA 28 VDC
Sabotage:	Breaking 100 mA 28 VDC

IR-detectors of the SRP-series

Passive IR-detectors with an unique optical system made up of a hard spherical lens that divides the sensing area into zones. The close zone surveillance is made up of mirror optics mounted inside the detector. The detector can be mounted on a wall or in a corner and is suitable for use in homes and in corporate environments. The detector analyses the environment in



Common data	
Cover area: Supply voltage: Output:	18×18 m (SRP-360 dia 12,7 m) 7,8–16 VDC Breaking, 100 mA 28 VDC Breaking, 100 mA 28 VDC
Sabotage contact: SBSC certificate:	All except SRP-360

the whole spectrum where movement can be sensed, which makes it possible to separate an intruder from other factors in the environment that otherwise would cause false alarms. This spectrum analysis is carried out in the VLSI electronics of the unit for a guaranteeing high reliability and for non-problem function. Besides the standard detectors there is also a combination detector (IR/Micro wave) SRX-1000 and a ceiling detector SRP-360.

Туре	Stock no.	Price each
Talon serie TL-10 TL-30 TL-QUAD TL-360 TL-X	30-752-07 30-752-15 30-752-23 30-752-31 30-752-49	24.80 28.20 44.20 114.00
SRP serie SRP-300 SRP-600 SRP-700 SRX-1000 SRP-360	30-753-06 30-753-14 30-753-22 30-753-30 30-753-48	32.90 41.60 48.90 126.00 126.00

For more data see www.elfa.se.

Swedish-made solar panels from Gällivare Photovoltaic AB (GPV)

GPV's solar panels are manufactured using the latest technology and highquality materials. The panels are made up of polycrystalline cells connected in series mounted in a very stable aluminium frame. They are designed to be able to withstand tough conditions and wind speeds of up to 200 km/hour. Solar

Technical data

Output voltage, no load: 21,5 Vdc Cable length: Appr. 1 m All values given for 1000 W/m² radiation energy is used for maintenance-free power supply in applications where ordinary mains power is not available, e.g. measuring and telecommunication equipment, powering of pumps in irrigation systems, alarm and security systems, recreation houses and boats. For a complete system you need mounting brackets, a charging regulator and lead batteries, e.g. stock no. 69-477-41.



Manufactured by GPV

Туре	Voltage Vdc	Current A	Power W	Dimensions mm	Weight kg	Stock no.	Price each
GPV51GK	17	3,0	51	410×985×38	5,0	69-432-03	330.00
GPV75GK	17	4,4	75	489×1200×38	<i>7</i> ,1	69-432-11	446.00
GPV102GK	17	6.0	102	620×1293×38	9.1	69-432-29	607.00

Mounting brackets for solar panels

Mounting brackets for wall or roof mounting of solar panels. Can be angled in three positions, sold per pair.



	-		
A. Carrier			
-	1	-	

Туре	For solar panel	Stock no.	Price per pair
MOUNTING BRACKET 51 W	GPV51GK	69-432-78	356.00
MOUNTING BRACKET 75 W	GPV75GK	69-432-86	415.00
MOUNTING BRACKET 102 W	GPV102GK	69-432-94	459.00

Charging regulator



Туре	Stock no.	Price each
Solum 8/8 8 A	69-433-02	78.50
SOL-GAMMA 12 A	69-433-10	110.00
SOL-SIGMA 20 A	69-433-28	139.00

Alarm package house/company 8 - 16 sections

A complete alarm package for your house, the small office and store, etc. The alarm is primarily designed as a burglar alarm but can also be used for handling of fire alarms, threat alarms, technical alarms etc. Alarm central with transmitter and modem for 8 sections with up to 24 different, programmable section types. The integral modem calls up and establishes a connection with a pre-set alarm central. The modem reports system occurrences like alarms, on/off switches, low battery voltage etc.

Contact ID is used as a code format which simplifies programming as the recipients number and the client number are the only things that need to be programmed. The integral alarm transmitter can transmit alarms to a stationary phone or mobile phone. Programming, test, reading of alarm log and off/on switching of the alarms system is carried out by an external control panel with lit clear text display. Integral battery as backup power at power failures.

Alarm package/house 8 sections:

- 1 alarm central AV-2008 (30-751-08) with integral alarm transmitter and
- 1 control panel AV-707B (30-751-81) with clear text display
- 1 IR-detector SRP-300 (30-753-06)
- 1 magnetic contact MK-440, external
- 1 indoor siren SIR-220
- 1 battery 12 V, 7 Ah

Alarm package/company 16 sections

- 1 alarm central AV-2016 (30-751-16) with integral alarm transmitter and
- 1 control panel AV-707B (30-751-81) with clear text display
- 5 IR-detectors SRP-300 (30-753-06)
- 2 magnetic contacts MK-440, external
- 1 indoor siren SIR-200
- 1 outdoor siren SIR-016
- 1 battery 12 V, 7 Ah



Code lock for door mounting, battery powered

Type R-FORCE G2. Battery powered code

lock for direct mounting on door, indoors or outdoors.



Manufactured by RCO

Code look
Type R-COD 500



Relay output braking capacity: Activation time: Codes:

Temp. area:

Dimensions:

Activation:

Technical data

Supply voltage: Power consumption, idle:

> Max 1 A 24 Vdc 1 s-60 min 8 pcs 3-6 digits, 1 system

10-24 Vdc

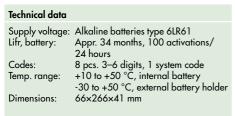
5 mA

50 mA

code -30 to +70 °C 70×144×37 mm

Manufactured by RCO

Туре	Model	Dimensions mm	Stock no.	Price each
Package	House		30-750-09	547.00
Package	Company		30-750-17	793.00
Control panel	AV-707		30-751-81	224.00
Alarm central	AV-2008	230×300×90	30-751-08	273.00
	AV-2016	360×320×90	30-751-16	378.00
Expansion card for AV-2016	AV-816		30-751-40	112.00
Code look	R-COD 500 white		30-850-08	197.00
	R-COD 500 silver		30-850-16	197.00
	R-FORCE G2 white		30-852-06	375.00
	R-FORCE G2 silver		30-852-14	375.00
View protection	IS-2 till R-COD 500	74×107×100	30-850-40	52.30
Battery case	BA-1		30-852-48	43.90





Universal power supplies 5-24 V

Unique power supply with fixed output voltage 5-24 V in steps of 1 V. Choice of output voltage by a small voltage clamp that is connected on the side of the power supply. The clamp is marked with the voltage that is generated and thanks to this technology there is no risk for change of voltage by mistake. Available in two designs with max. output power of 35 W resp. 50 W. The power supply is delivered with 8 pcs. of exchangeable/ polarity reversible secondary connectors. Voltage clamps ordered separately. The most common voltages are also sold apiece.

Techni	cal	data

100-240 Vac, 50/60 Hz Input voltage: 95x45x28 mm (35 W) Dimensions:

Туре	Description	Stock no.	Price each
AM 0055 0524	Power supply 35 W	69-630-03	25.40
AM 0055 slots	Bag with 20 slots 5–24 V	69-630-29	4.09
AM 9935 0524	Power supply 50 W	69-632-01	29.40
AM 9935 slots	Bag with 20 slots 5–24 V	69-632-27	4.09

Fluke introduces a new industrial ScopeMeter, Fluke 124, just as simple as 123 but faster

Fluke now offers a follower to the popular ScopeMeter 123. Fluke 124 has among other things a wider bandwidth, oscilloscope cursors, more memories and a more powerful NiMH battery.

Three instruments in one

The ScopeMeter 124 is made up of completely integrated test tools which combine the three most used service tools: an oscilloscope, a multimeter and a non-paper curve printer (trend plotter) in an economic and easy-to-use instrument. With its unique handsfree function connect-and-view the instrument becomes the optimum choice for technicians who are servicing and trouble-shooting the complex industrial systems of today.

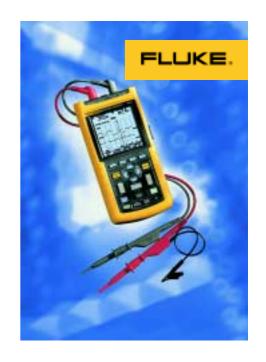
More trouble-shooting capacity

The new ScopeMeter 124 has 40 MHz bandwidth and cursor measurements on screen for a more detailed signal analysis. It contains 20 measurement data memories. The normal operating time per charge has been extended by 2 hours to 7 hours thanks to more efficient NiMH batteries. The new battery can be used with the ordinary 123 with firmware version 2.

Easy-to-use

It can be difficult to trigger a signal. Most times you do not know what will happen. Faulty trigger settings means unstable and sometimes wrong results. But not with Fluke ScopeMeter. Fluke's unique Connect and view automatically recognises the signal pattern and automatically sets the correct value. This provides a stable and repeatable display of practically all signals, motor controls and control signals included.

The ScopeMeter 124 is supplied with rechargeable battery NiMH BP130, wall charger BC 190, 1 10:1 probe VPS40 and manual on a CD in 15 different languages. ScopeMeter 123 is still part of the range.

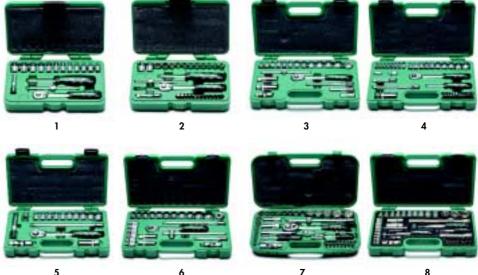




Model	Stock no.	Price each
ScopeMeter 124	76-237-39	1514.00
BP130 spare battery	76-238-53	76.30
VPS40 spare probe	76-238-61	91.40

New socket wrench sets at good prices

ELFA is widening its assortment of socket wrench sets for industrial use. We have chosen to co-operate with one of Taiwan's largest manufacturers in this field, Honiton, with over 25 years of experience of manufacturing ratchet handles, sockets and complete socket wrench sets. All sockets can be purchased individually if you want to complete your set. See stock number 80-567-07 on www.elfa.se.



Manufactured by Honiton

Price each No. Description Stock no. 16 parts 1/4" fitting 80-340-77 2 3 4 32 parts 1/4" fitting 80-341-01 21.80 21 parts 3/8" fitting 80-341-75 33.00 37 parts 1/4" and 3/8" fitting 80-341-19 30.70 5 16 parts ½" fitting 80-341-76 25 parts 1/2" fitting 80-341-60 47.50 56 parts 1/4" and 1/2" fitting 80-341-74 66.40 53 parts 1/4" and 1/2" painted fitting 80-341-77

П

Fluke supplies the ScopeMeter 190B-series with displays that are bigger, faster and brighter

Fluke has improved their high-performance, portable oscilloscopes. They will upgrade to 190B that replaces the earlier 190-series. They have larger and brighter LCDs with higher display update rates and more trigger modes. The price remains unchanged.

- Large and bright display
- More functions and upgraded FlukeView software
- More trigger modes

Model	Stock no.	Price each
ScopeMeter 192B, 60 MHz ScopeMeter 196B, 100 MHz ScopeMeter 199B, 200 MHz	76-235-33	2523.00 2912.00 3541.00



Audio transformer with phono connectors

Audio transformer for insulation of the signal earth in audio systems. Prevents earth loops and reduces the interference sensitivity and the risk of humming in PA and HiFi systems.



Stock no.	Price each
56-624-08	15.10

Handheld oscilloscope

Velleman HPS40 is an easy-to-use digital handheld 1-channel 12 MHz oscilloscope with TRMS multimeter with performance not far behind more expensive models. High sensitivity, graphic back-lit display, automatic measurements, cursors, autosetup, recording function, dBm/dBVmeasurements etc. Suitable for measurements in servicing, hobby, sound systems, mobile equipment, signal analysis and all types of sensors. Very well suited for school education. Powered by batteries alt. mains adapter. Integral charging circuit for NiMH batteries. Optional auto shut-off. Supplied with English manual, protective holster, probe, RS232 cable assembly, hard carrying case with handle.



Stock no.	Price each
76-230-77	408.00

Insulation transformer for TV-antennas

Supplies electrical insulation that separates antenna earth from device earth. Frequency range 2-870 MHz and supplied with standard IEC antenna connector.



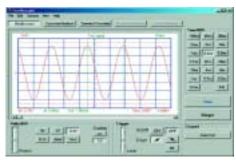
Stock no.	Price each
78-001-39	29.60

PC oscilloscope, 160 EUR only

- 12 MHz oscilloscope
- FFT spectrum analyser with zoom
- Transient logger
- Windows software 95 to XP

PC-based 1-channel digital memory oscilloscope that uses the computer's monitor as display. All standard oscilloscope functions are available through the enclosed Windows software. The functions are identical compared to ordinary oscilloscopes but with the difference that

all settings are carried out by use of the computer's mouse instead of by the buttons on the front panel. The PCS500A is connected using the computer's parallel port and is electrically separated by opto-switches. All wave shapes can be stored on the hard disk drive of the computer for documentation or for analysis later. Supplied with mains adaptor, PC cable assembly, English manual and CD with software.



Manufactured by Velleman

Stock no.	Price each
76-206-10	160.00

New digital multimeters from Meterman

Meterman XR is something completely new. They are multimeters that are designed with focus on you, the user, concerning both price and functionality. 6 models from the simplest basic model 30XR to the fully stocked 38XR with special options and functions that is common on more expensive makes. The quality is high and not far behind the best on the market. These multimeters are aimed at both the hobby and professional field where the instrument is used frequently. All models are supplied complete with probes, holster, and a very functional magnetic holder with incredible strength. All models are the same size 196x92x60 mm.

Meterman 30XR

A common multimeter with integral voltage detector Meterman 30XR has an integral voltage detector (non-contact voltage detector) that enables you to wireless test conductors for voltage. Manual range choice.

- Voltage detector
- 9 ranges and 30 functions for most measuring situations
- Safety Cat II 600 V



Туре	Stock no.	Price each
Meterman 30XR	76-049-03	66.10



Meterman 33XR and 34XR

For field service

Meterman 33XR and 34XR are ideal for service, maintenance, repairs and installation of electrical and electromechanical equipment. 34XR has automatic range choice and TRMS display and back-lit display. Otherwise it has the same functions as the 33XR.

33XR with manual range choice

- Temperature (probe type K is included), frequency and capacitance
- Data hold, min/max and analogue bargraph display for fast sequences of events like start currents etc.
- Safety Cat III 600 V, Cat II 1000 V



Model	Stock no.	Price each
Meterman 33XR	76-049-11	91.40
Meterman 34XR	76-049-29	117.00



Meterman 37XR

Precision multimeter TRMS for electronics Meterman 37XR is the instrument for you that work with precision electronics in the field or in the lab. Min/max average value display, relative measurements. Data Hold, analogue bargraph with 43 segment resolution etc.

- Automatic range choice
- 10000 scale length with 0.1% maximum fault
- LCR component tester for inductance, capacitance and
- Frequency, logic test, dBm for trouble-shooting on PCBs
- Back-lit LCD
- Safety Cat III 600 V



Model	Stock no.	Price each
Meterman 37XR	76-049-37	133.00



Meterman 38XR

Industrial multimeter TRMS with temperature and RS232 Meterman 38XR is the instrument for you working with troubleshooting in industry, automation, processes, factories, etc.

- TRMS, AC+DC
- 10000 scale length with 0.25% maximum fault
- Temperature measurement range (probe type K included)
- 4-20 mA measurement range with 0-100% display
- Optically insulated RS232 input for real time log of measurement values. Needs accessory 38-SW.
- Back-lit LCD
- Safety Cat III 1000 V, Cat IV 600 V, highest possible safety classification.



Model	Stock no.	Price each
Meterman 38XR	76-049-45	153.00
Meterman 38-SW	76-049-94	20.40

For educational purposes

The following equipment is perfectly suited for education rooms and laboratories where different experiments in physics are carried out. The series contains 4 pcs. of instruments in a practical case with a large display that is visible from far away,

like in a teaching hall. Also included are 2 pcs. of capacitance boxes for resistance and capacitance. The instruments has touchproof 4 mm banana plug outlets, the boxes has pole screws and 4 mm banana plug connection.

AC voltage meter ACV, AV-102



Technical data	
Ranges: LCD height: Size appr.:	1,999 V, 19,99 V and 199,9 V, 600 V 18 mm 147x117x47 mm

Stock no.	Price each
76-100-17	53.20

LCR box, CBOX-406



Technical data	
100 pF to 11,111 uF i 100 Tolerance: Size appr.:) pF steps 5 % 147x117x52

Stock no.	Price each
76-550-61	121.00

DC current meter DCA, DA-103



Technical data	
Ranges: LCD height: Size appr.:	1,999 mA, 19,99 mA, 199,9 mA, 5,00 A 18 mm 147x117x47 mm
Stock no.	Price each
76-100-25	53.20

LCR box, RBOX-408



Technical data	
1 to 11,111110 Mohm in	1 ohms steps
Tolerance:	1 %
Size appr.:	147x117x52 mm

Stock no.	Price each
76-550-25	92.80

DC current meter ACA, AA-104



Technical data	
Ranges: LCD height: Size appr.:	1,999 mA, 19,99 mA, 199,9 mA, 5,00 A 18 mm 1 <i>47</i> x117x <i>4</i> 7 mm
Stock no.	Price each

53 20

PH-meter, PH-202



Technical data		
Measurement range: LCD height: Size appr.:	0 to 14,00 pH 18 mm 147x117x52 mm	

Stock no.	Price each
76-618-04	74.60

DC voltage meter DCV, DV-101

76-100-33



Technical data	
Ranges: LCD height: Size appr.:	199,9 mV, 1,999 V, 19,99 V and 199,9 V 18 mm 147x117x47 mm

Stock no.	Price each
76-100-09	53.20

Accessories for PH-202

Туре	Stock no.	Price each
pH-probe PE-03	76-619-11	62.20
pH-probe PE-04HD	76-619-52	210.00
Buffer solution PH-07	76-619-37	13.90
Buffer solution PH-04	76-619-45	13.90

Tandem multimeter GDM-8246

- 50000 scale length
- Large clear dual LED display
- Multi-function ACV, DCV, ACA, DCA, R, C, Hz, continuity, buzzer, diode test, max/min, REL, Hold, dBm, comparison measurements.
- 0.02 % maximum fault (DCV)
- ACV measurements up to 100 kHz
- 20 A measurement range with highenergy fuse for maximum safety
- AC TRMS or AC+DC TRMS
- RS-232 interface
- GPIB (option)





Туре	Stock no.	Price each
GDM-8246 RS232	76-102-07	532.00
GDM-8246 RS232+GPIB	76-102-15	628.00

DVD-media

Maxell DVDs for storing of video or data. 4.7 GB storing capacity.



Туре	Stock no.	Price each
DVD-R Jewel case	25-414-07	4.82
DVD-RW Jewel case	25-414-15	8.59
DVD+R Amaray case	25-414-23	4.82
DVD+RW Amaray case	25-414-31	8.59

GPS special offer - campaign price **480 EUR**

Buy the popular Meridian Gold from Magellan at the campaign price. Valid through 30-06-2003.

GPS receiver Meridian Gold

Water-proof according to IPX-7 and floats. It is supplied preprogrammed with a 16 MB map, motorways, parks, navigation information, airports etc. 7 navigation menus, stores 20 routes, 500 waypoints and over 2000 trackpoints. For more detailed map information the receiver can be complemented by the map programs shown below for lakes, roads or landscape. Supplied

with batteries, PC cable assembly and manual on CD-rom (English and Swedish) and a quick manual.



Technical data	
Dimensions:	74x165x33 mm
Weight:	227 gram



Description	Stock no.	Stock no.
GPS Meridan Gold	78-416-12	480.00
		(Ordinary price 590 EUR)

The new GPS receiver Meridian Color

The Magellan Meridian Color has the same high performance as Meridian Gold but it also has a brilliant colour display. The only GPS receiver on the market with a colour display that is used to its advantage when used in conjunction with all types of MapSend products. The use of BlueNav kit provides different colours around light house sectors, navaids, depth curves and similar superior differences concerning other MapSend products.

Description	Stock no.	Price each
GPS Meridan Color	78-416-20	769.00

Accessories for Meridan GPS

Description	Stock no.	Price each
Holder with joint mount Vehicle holder w. suction cups DC cable with cigarette lighter outlet plug PC cable assembly+DC cable with cig. lighter outlet plug	78-416-38 78-416-46 78-416-53 78-416-61	66.80 136.00 66.80 136.00



Maps for Magellan GPS MapSend WorldWide BaseMap

Topographic map with high-detail display. Contains height curves, borders, main roads, water ways, etc. Suitable if you need to navigate over land, in forests and areas apart from lakes and roads. You must complement your Meridian with a memory card.

Description	Stock no.	Price each
MapSend WorldWide BaseMap	78-415-21	215.00

MapSend BlueNav Kit Europe

Detailed chart information. Derived from Navionics Gold chart. The chart information is uploaded from your PC to the Meridian memory card. Contains all coast lines in Europe, from northern Norway, the Gulf of Bothnia, the entire Baltic area, Great Britain, the Atlantic coast of Europe and the Mediterranean. Supplied with 32 MB SD card for your Meridian GPS.

Description	Stock no.	Price each
MapSend BlueNav Kit Europe	78-415-39	275.00

MapSend Streets Europe

Detailed road information covering Austria, Belgium, Denmark, Ireland, France, Germany, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and Great Britain. You need to complement your Meridian with a memory card.

Description	Stock no.	Price each
MapSend Streets Europe	78-415-13	172.00

RS 232/V.24 insulator

DIN-rail mounted insulator that provides electric insulation between equipment that have RS-232/V.24 interface. Solves the problem of equipment with different earth potentials and protects against transient and other kinds of interference.

Туре	Power supply	Stock no.	Price each
MD-52AC	230 VAC	25-618-01	1 748:00
MD-52DC	12–36 VDC	25-618-27	1 910:00



Logic module Millenium II campaign

Take this opportunity to test a very versatile product that can solve your control and regulation problems, now at a campaign price. Campaign price valid through 30-06-2003.

Millenium II is a series of separate logic modules (mini-PLC) that are used for control and regulation by programmable relay outputs. The module is easily programmed by a PC and menucontrolled software. Integral real-time clock with calendar. Available in designs with set of buttons and LCD (SA...) and a model for insertion (EC...)



Suitable applications are:

- Control of lighting, heating systems, doors, pumps
- Regulation of temperature, flow Automatic surveillance of doors, fans, ventilation systems

Model	Description	Stock no.	Ord. price	Campaign price
SA12R24 VDC	8 Inputs/4 relay /24 Vdc	25-728-08	149.00	134.00
SA12R230 VAC	8 Inputs/4 relay /230 Vac	25-728-24	168.00	150.00
EC12R24 VDC	8 Inputs/4 relay /24 Vdc	25-729-07	112.00	100.00
EC12R230 VAC	8 Inputs/4 relay /230 Vac	25-729-23	130.00	117.00
	Sortware on CD	25-730-04	6.89	6.44
	Programming cable assembly	25-730-12	40.90	36.48

More information about the products is available at www.elfa.se and in catalogue no. 51.

DC/DC-converters for vehicles with high demands on reliability and performance

ELFA introduces a new make in high end DC/DC-converters for vehicle applications. Alfatronix is an English manufacturer with 25 years of experience in making high-performance and highreliability voltage converters. The range is made up of 24 VDC-12 VDC-converters (PowerVerter) and 12 VDC-24 VDC (PowerSelector). Both series are characterised by high efficiency and compact dimensions which simplifies mounting in cramped spaces with limited ventilation.

Suitable for use in trucks, busses, emergency vehicles and forest and agricultural machines.

PowerVerter without electrically separated inputs/outputs. Input voltage: 17–32 VDC/output voltage: 13.6 VDC.

Туре	Current (continous)	Current (intermittent) max. 2 minutes	Stock no.	Price each
PV3s	3 A	6 A	69-691-09	29.20
PV6s	6 A	10 A	69-691-17	38.40
PV12s	12 A	18 A	69-691-25	64.60
PV18s	18 A	21 A	69-691-33	92.30
PV24s	24 A	30 A	69-691-41	124.00



- Robust design with durable cover made of black anodised aluminium
- Simple and quick mounting by a included mounting clamp
- Low idle consumption: < 15 mA
- Dirt and humidity proof according to IP533
- Life time warranty
- E-marked



PowerVerter with electrically separated inputs/outputs. Input voltage: 17–32 VDC/output voltage: 13.6 VDC.

Туре	Current (continous)	Current (intermittent) max. 2 minutes	Stock no.	Price each
PV3i	3 A	6 A	69-692-08	58.40
PV6i	6 A	10 A	69-692-16	76.90
PV12i	12 A	18 A	69-692-24	130.00
PV18i	18 A	21 A	69-692-32	185.00
PV24i	24 A	30 A	69-692-40	247.00

PowerSelector 12 VDC-24 VDC without electrically separated inputs/outputs. Input voltage: 8.4–15.6 VDC/output voltage: 27.2 VDC.

Туре	Current	Stock no.	Price each
PS72s	3 A	69-693-15	114.00
DD168 12-24	7 A	69-693-56	164.00
DD240 12-24	10 A	69-693-64	232.00

ELFA expands the Sanyo range

We have begun to co-operate more closely with Martinsson Elektronik that which makes it possible for us to satisfy your needs regarding smaller quantities for development and test series, in combination with our reliable and fast deliveries. The co-operation means that we have extended our range of Sanyo capacitors with approximately 250 new types from their most popular series. Sanyo is in the front regarding development of capacitors and they were the first to introduce a dry semiconductor electrolyte, OS-CON and with a polymer tantalum electrolyte, POSCAP.

OS-CON

This is a dry aluminium electrolyte capacitor. It is made up of an organic semiconductor electrolyte which provides high performance with low ESR, high current, frequency and temperature durability and low impedance even at low temperatures. The life is also extremely long. Calculated life at 65 °C is approximately 22 years!

CV-EX

This series is the first of its kind using a hybrid electrolyte, that is a wet electrolyte with a polymer electrolyte added. It is surface mounted with a voltage durability up to 16V and an ESR down to 23 mohm and ripple durability of about 2A.

This are the Sanyo series that we offer:



POSCAP

Sanyo was first with the manufacture of a polymer tantalum electrolyte where the manganese dioxide has been replaced by a high-conductive polymer which provides higher capacitance than an ordinary tantalum capacitor. A polymer electrolyte contains no oxygen and does not therefore fuel a fire if there is a short circuit.

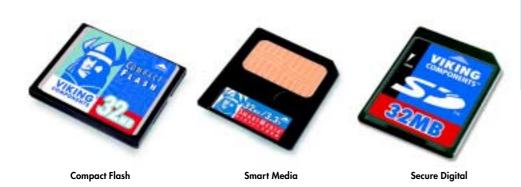
Sanyo is still the leading manufacturer with among others the lowest ESR on the market and a capability to withstand current surges of up to 20 A and a ripple durability of 4 A. Long life, excellent HF properties and stable temperature characteristics are some things that typifies POSCAP. The low ESR of POSCAP means a low temperature development at high frequencies. This makes it possible to maintain marked voltage and de-rating is not necessary with POSCAP.

Series	Temp (°C)	Capacitance (µF)	Voltage Vdc	Design	Exemple of stock no.	Property
MV-AX MV-FXS MV-WX SA och SC CV-AX CV-C CV-EX CV-FS CV-KX POSCAP SVP	-55 to +105 -25 to +105 -40 to +105 -55 to +105 -55 to +105 -40 to +85 -55 to +105 -55 to +105 -55 to +105 -55 to +105 -55 to +105 -55 to +105	47-4700 15-47 220-3900 1,0-220 4,7-6800 1,0-10 22-680 10-2200 68-3300 15-680 3,3-470	16-100 400 6-50 10-30 6,3-50 16-50 4-16 10-400 6,3-35 4-25 6,3-20	Hole mounted Hole mounted Hole mounted Hole mounted Surface mounted	67-228-21 67-141-09 67-232-25 67-200-07 67-216-58 67-218-23 67-218-49 67-221-36 67-226-07 67-760-17 67-214-01	Low impedance, long life High voltage, low impedance Low impedance, high ripple durability OS-CON Low impedance Miniature, 3 mm diameter Low impedance Standard 105 °C Low impedance Polymer tantalum OS-CON

Log on to www.elfa.se and search for e.g. stock numbers from the table to obtain datasheets and more information about the series.

More memory capacity in your camera?

We can now offer a selection of memories from the well-known manufacturer Viking at good prices. 100 % quality tested and a 5-year warranty guarantees problem-free use. Larger memories will be introduced in the course of this year. Log on to www.elfa.se for current price and news.



Туре	Stock no.
CompactFlash 32 MB 64 MB 128 MB 256 MB	73-870-04 73-870-12 73-870-53 73-870-61
SmartMedia 32 MB 64 MB 128 MB	73-871-03 73-871-11 73-871-29
Secure Digital 32 MB 64 MB 128 MB 256 MB	73-872-02 73-872-10 73-872-28 73-872-36

BasicATOM with lots of power

BasicATOM offers lots of power to a minimal price. It contains among other things a A/D converter, buffered UART and hardware PWM. The software is Windows-based and has integral in-circuit debugger that makes it possible to step through the programme row by row in real-time. The English speaking manual of 260 pages is written using an easy accessible language and provides a thorough explanation of all commands. The modules are supplied with software included and a PDFmanual. The manual in form of a book can also be ordered. The ATOM development board fits all modules and is supplied by 6 to 12 VDC. To obtain a complete starter kit you need a module, development board, manual, software, serial cable assembly and power supply.

ATOM 24 is pin compatible with BasicStamp and has 16 I/O pins and a further 4 I/O soldering pads that can be used as analogue inputs.

ATOM 28 and ATOM 40 have 20 resp. 32 I/O pins of which 4 can be used as analogue inputs.



Technical data ATOM 24/28/40 Fic16F876 MCU: Pic16F876 Settings/sec.: 33 000 Programme memory: 14 Kbyte RAM: 368 bytes Power: 5 mA Standby cons.: 200 µA Commands: 66 pcs		
MCU: Pic16F876 Settings/sec.: 33 000 Programme memory: 14 Kbyte RAM: 368 bytes Power: 5 mA Standby cons.: 200 µA	Technical data	
	MCU: Settings/sec.: Programme memory: RAM: Power: Standby cons.:	33 000 14 Kbyte 368 bytes 5 mA 200 µA



Туре	Stock no.	Price each 1-	10-
ATOM24 module ATOM28 module ATOM40 module ATOM development board ATOM manual Serial cable assembly Power supply	73-198-09 73-198-17 73-198-25 73-198-33 84-198-48 25-962-11 69-809-32	66.70 72.20 89.00 77.80 33.20 4.92 14.30	61.10 66.70 83.40 72.30 27.60 4.05

Fan 25x25 mm

Compact DC fan with plain bearings, only 25x25x8 mm. Low weight. Electronically protected against mechanical blockage and wrong polarity. Can be mounted in any position. Made of glass-fibre reinforced plastic. Supplied with connection cables, 160 mm.





Туре	Voltage/power Vdc/W	Capacity m³/h	rpm	Stock no.	Price each
255N	5/0,4	3,2	9000	54-071-01	25.90
255H	5/0,6	5,0	12000	54-071-19	27.20
252N	12/0,6	3,2	9000	54-071-27	25.90

Low-price development tools for Pic

A development board with support for most Pic circuits. Automatic function for disconnecting the circuit from the application during programming. Available in 2 designs depending on type of package. Outlet for ISP-Pro adaptor for easy trouble-shooting and testing of the software. Perfect for use with Mbasic. ISP-Pro is a complete development tool for Pic. It

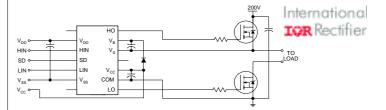
can programme circuits directly in the application. Best connection is to the development board by the enclosed RJ45 or to an adaptor board. Possible to power supply via the application or an external power supply.





Туре	Suitable packages	Stock no.	Price each
0818 Development board 2840 Development board ISP-Pro Adaptor to ISP-Pro Seriel cable assembly Power supply	DIL8 , DIL18 DIL28 , DIL40	73-370-25 73-370-33 73-370-09 73-370-17 25-962-11 69-809-32	64.00 64.00 64.00 27.00 4.92 14.30

Dual IGBT and MOSFET driver circuits High/Low Side



Application areas

Audio amplifiers in the high-power range (Class D) High-power DC-DC converters



Technical data			
Supply voltage: V Offset: Power consumption: Output current (source/sink): On/off switching t/t_sff: Channel match (t_o_/t_sff): Temperature range:	2113 +10 to +20 600 180 2,5/2,5 120/94 10 -40 to +125	2010 +10 to +20 200 100 3,0/3,0 95/65 15 -40 to +125	V Vmax uA typ. A typ. ns typ. ns max. °C

Туре	Stock no.	1-	25-	50-	100-
IR2010 Gate Driver DIP14	73-429-83	35,60	21,30	19,60	18,20
IR2010S Gate Driver SO16	73-429-91	36,80	22,00	20,30	18,80
IR2113 Gate Driver DIP14	73-433-87	49,80	29,70	27,40	25,50
IR2113S Gate Driver SO16	73-433-95	54,90	32,70	30.20	28,10

Preferred MOSFET transistors from IR – International Rectifier.

Туре	Stock no.	1-	50-	250-
IRFR18N15D DPAK IRF530NS D2PAK	71-174-68 71-149-37	22,60 18,30	11,90 9,59	9,90 7,98
		1-	25-	100-
IRFP260N TO-247	71-167-83	110,00	57,60	48,10